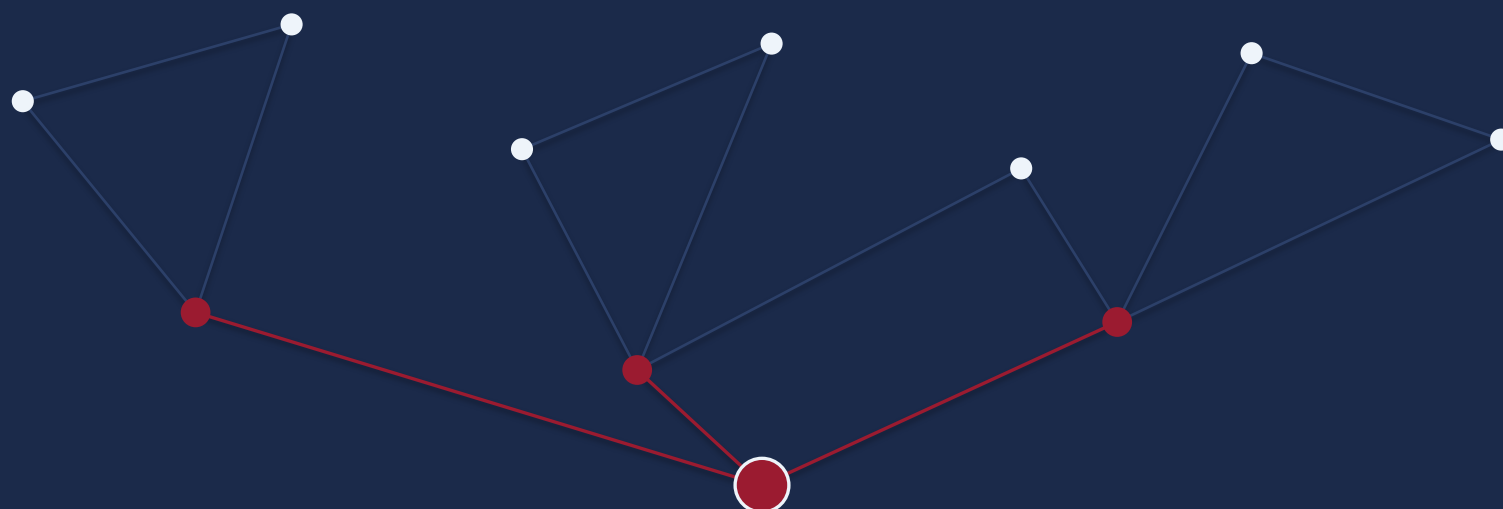


The project failed. That does not tell you why.

*Hindsight, causation, and the expert evidence that
infrastructure tribunals actually need.*



An adverse outcome is evidence. It is not the analytical starting point.

When an infrastructure dispute reaches arbitration, the tribunal knows something the project team did not: how the story ended. Three distinct risks follow.

01

HINDSIGHT

Was the decision unreasonable — or does it only look unreasonable now that the outcome is known?

02

CAUSATION

Did one event cause the loss — or did several interdependent events combine to produce it?

03

TRANSLATION

Can technical reality be converted into a legal proposition without distorting it?

The risk is that a coherent account can be built on a technically incomplete reconstruction of what happened.

Reasonableness is assessed ex ante. Arbitration happens ex post.

A decision taken in 2021 is examined in 2026 in a different information environment entirely.

THEN · AT THE DECISION	NOW · AT THE HEARING
Incomplete information A programme still moving Commercial pressure Uncertain regulatory action Consequences unknown	The complete project record Delay and cost quantified The technical failure known The contractual consequence known Expert reconstruction available
24% → 57% Mock jurors judged a municipality’s decision not to hire a bridge watcher. 24% thought the precaution warranted prospectively; 57% did after learning the flood had occurred. Debiasing instructions produced no statistically significant reduction.	

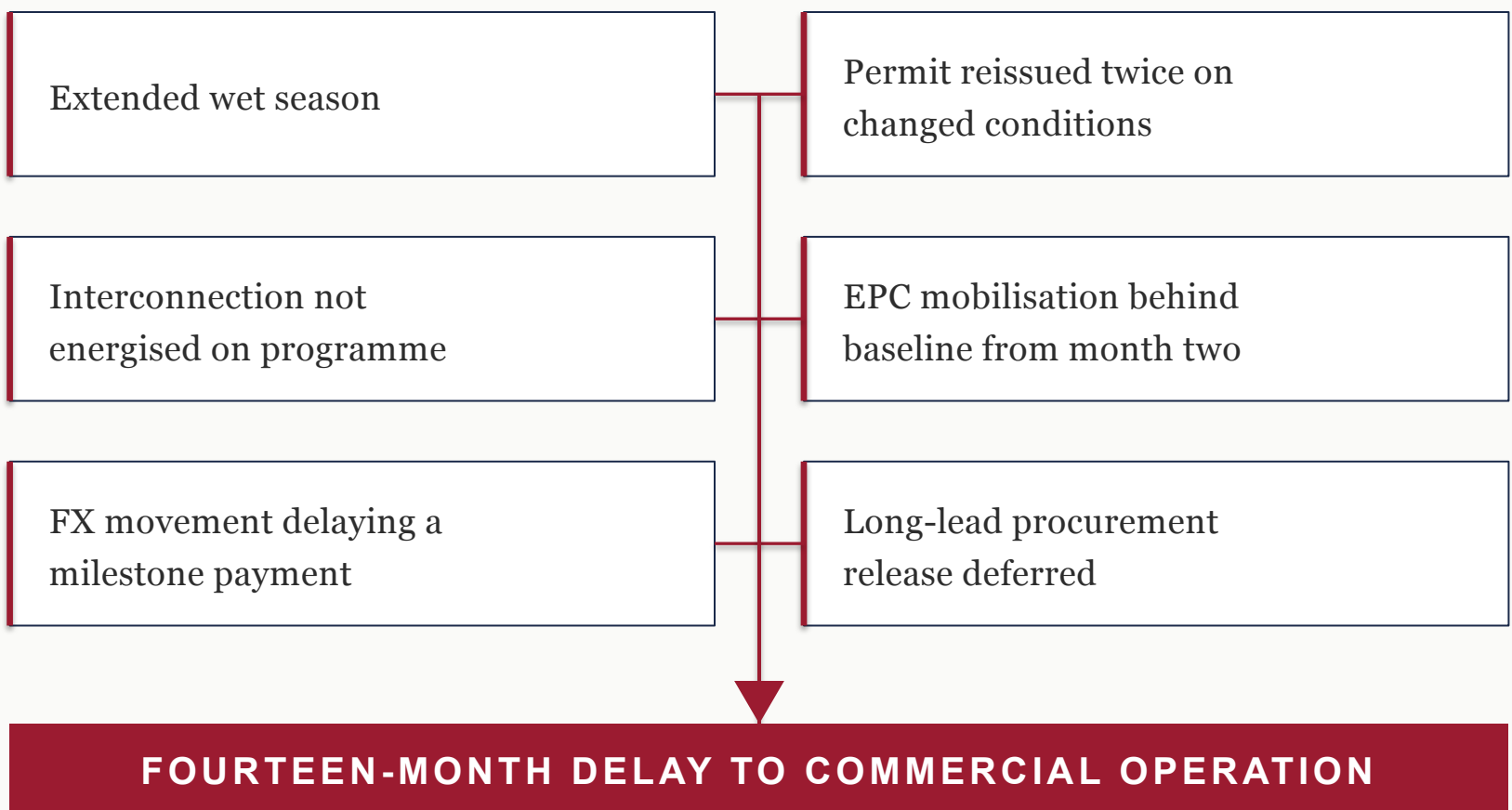
The question is not what should have been done knowing what happened. It is what a competent practitioner could reasonably have decided knowing only what was knowable then.

SOURCES: Kamin & Rachlinski (1995); Guthrie, Rachlinski & Wistrich (2001) — 167 federal magistrate judges, tested on a different hindsight problem: 81.5% called the outcome most likely when told it had happened, against 27.8% told otherwise. Training and experience did not immunise the bench; Kreis, Hermann, Pachur & Groß (2025).

These studies tested mock jurors and judges, not arbitrators. No equivalent study of arbitral decision-making exists while awards remain confidential. The research is offered as reasoning about mechanism, not as measurement of arbitration.

See Sources for full references.

Major infrastructure losses rarely have one cause. Expert reports often do.



Illustrative composite. Not drawn from any engagement.

The commercial outcome is linear. The causal structure is not.

THE FORENSIC RISK

Party A's expert builds a defensible narrative around Cause A. Party B's expert builds an equally coherent narrative around Cause B. The tribunal is then invited to choose between two stories the engineering may support neither of in isolation.

SOURCES: Murrie, Boccaccini, Guarnera & Rufino (2013) - 108 forensic psychologists and psychiatrists, identical case files; the perceived retaining side systematically affected scores, effect sizes up to $d = 0.85$ at the upper end; Current synthesis: Simon (2025) 21 Annual Rev Law Soc Sci 359.

The empirical data comes from forensic mental-health experts rather than engineering or delay experts. It nevertheless demonstrates a mechanism of adversarial allegiance that expert methodologies should be designed to resist

See Sources for full references.

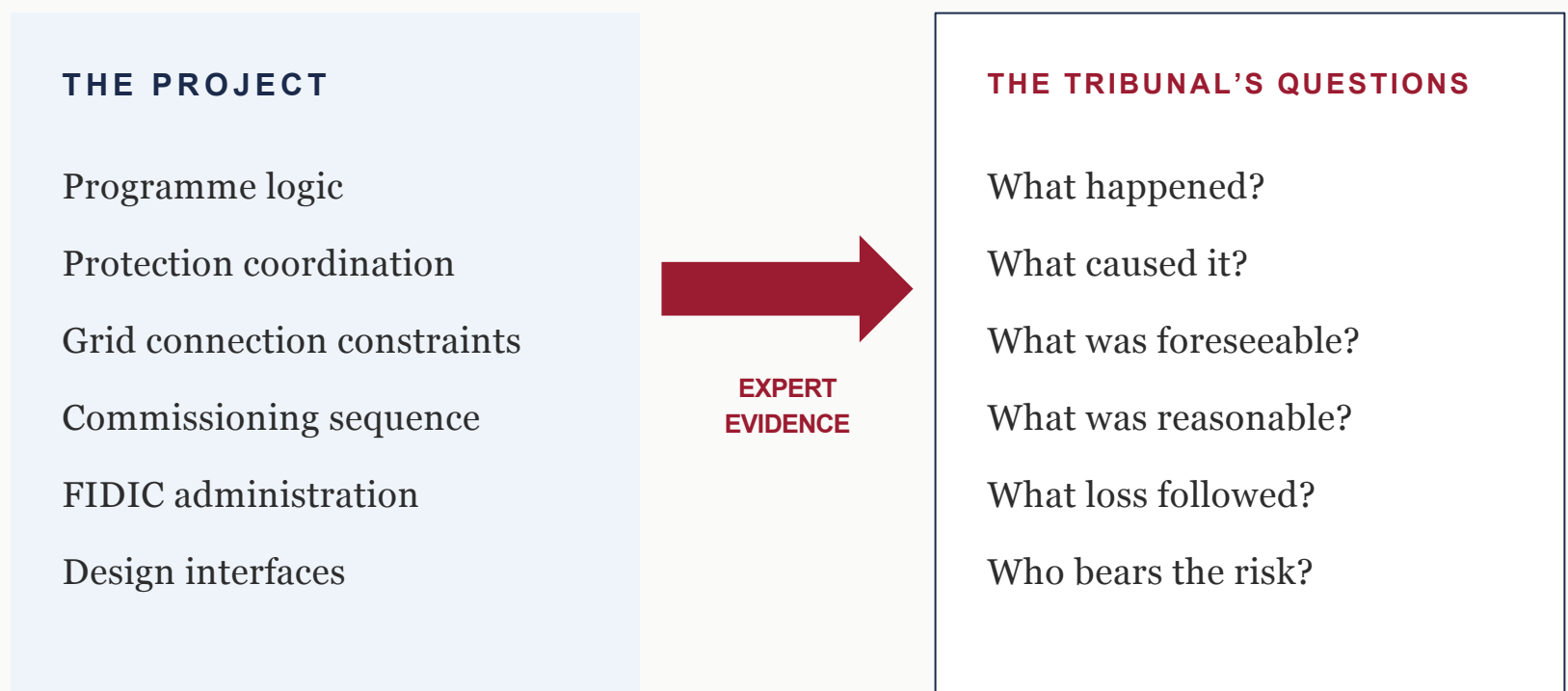
English doctrine travels. Its legal effect does not.

	ENGLAND & WALES	ASIA-PACIFIC
Concurrent delay	Walter Lilly v Mackay: where two effective concurrent causes include a Relevant Event, the contractor may be entitled to the full extension of time for that event notwithstanding a concurrent contractor-risk event.	Singapore remains less settled. Ser Kim Koi discussed concurrent delay, including the relative causative potency of competing causes and the Malmaison approach, but concurrency had not been properly pleaded or determined; other Singapore authority has applied conventional but-for reasoning.
Critical path	Causative delay must be demonstrated against activities affecting completion, ordinarily through critical-path analysis — Obrascon Huarte Lain.	Australian authorities emphasise proof of actual causative delay to completion, rather than merely identifying an event capable of causing delay. Programme and record quality remain critical.
Notice architecture	Notice operates as a condition precedent where the contract makes that clear — Steria v Sigma Wireless.	Hong Kong courts give close effect to contractual notice requirements; entitlement may depend upon whether the notice identifies the contractual basis and circumstances required by the clause — Maeda v Bauer
Causation framework	Common-law causation operates within the contract’s allocation of delay risk, EOT machinery and the applicable principles governing concurrent causes.	Vietnam and Indonesia apply their own statutory and civil-law causation and damages regimes. Vietnamese commercial law expressly requires the breach to be the direct cause of an actual loss; Indonesian law limits recovery to loss foreseeable when the obligation was made. English delay doctrine cannot simply be transplanted.

English authority supplies the doctrinal frame. It does not substitute for the governing law, the contract, the records, and the actual causal structure of what occurred.

SOURCES: The authorities cited are court decisions. Arbitral awards applying these principles are generally confidential and unreported; Bauer v Maeda reached the Hong Kong courts only as an appeal on a question of law arising out of an arbitral award. See Sources for full references.

Technical correctness is not enough. The tribunal must be able to use it.



The expert is more than a source of technical information. The expert builds the analytical bridge between engineering reality and the questions the tribunal must determine.

Complexity should be translated — not simplified away.

SOURCES: Besaiso & Fenn (2022) - from in-depth interviews with 28 international construction arbitrators.
See Sources for full references.

The strongest expert evidence reconstructs before it concludes.

01

RECONSTRUCT

What information actually existed at the relevant date, and what were its limits?

02

BENCHMARK

What would a competent practitioner in that market, with that information, have done?

03

MAP CAUSATION

Identify the interacting causes before selecting a dominant one.

04

TEST

Expose assumptions, alternative scenarios, and sensitivity to incomplete records.

05

TRANSLATE

Explain the conclusion in terms the tribunal can apply to the legal issue.

Independence is not demonstrated by neutrality of language.

It is demonstrated by a methodology capable of producing an inconvenient answer.

Confidentiality weakens the public feedback loop.

Litigators can learn from published judgments which reasoning survives scrutiny. In arbitration, much of that feedback remains private. Expert methodology therefore has to carry more of the discipline that published precedent provides in litigation..

SOURCES: Fasolo, Heard & Scopelliti (2025); Dror (2020) identifies the six fallacies by which experts assume themselves immune. The five-stage sequence is Sentinel Advisory's practitioner synthesis, not a proposition established by the cited papers. See Sources for full references.

Five takeaways

- 01 Do not confuse outcome with reasonableness.**
Reconstruct the decision on the information that actually existed when it was made.
- 02 Do not force multi-causal events into single-cause narratives.**
Do not assume a single cause. Interacting causes must be tested before causal responsibility is attributed.
- 03 Match the methodology to the governing law and the records.**
English doctrine is influential across Asia-Pacific. It is not universally transferable.
- 04 Require the expert to expose uncertainty.**
Assumptions and evidential limits are part of the opinion, not weaknesses to conceal.
- 05 Technical evidence must be usable by the tribunal.**
Translate complexity without stripping out the facts that decide the issue.

Reconstruct first. Attribute second. Translate third. Conclude last.

BASIS AND INDEPENDENCE — Independent commentary. Arbitral awards are generally confidential and unreported: the research cited comes from adjacent adjudicative settings and is offered as reasoning about mechanism, not measurement of arbitration; the authorities are court decisions, because those are what is public.

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Authorities & research

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